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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/560,499
Filing Date: December 12, 2005
Appellant(s): BOYCE, JILL MACDONALD

Guy H. Eriksen
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 07 January 2011 appealing from the Office action mailed 19 November 2010.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

a. Application Number 10/560477, Appeal Brief filed 07 January 2011 in response to Office action mailed 18 November 2010.

b. Application Number 10/559242, Appeal Brief filed 07 January 2011 in response to Office action mailed 17 November 2010.

c. Application Number 10/559643, Appeal Brief filed 21 February 2011 in response to Office action mailed 27 December 2010.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 1-9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakagawa (EP 0 883 299 A2) in view of Oguz (US-6,771,703).

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

European Patent Application, EP 0 883 299 A2, Published 09 December 1998.

6,771,703 OGUZ et al. 8-2004

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa (EP 0 883 299 A2) in view of Oguz (US-6,771,703).

Regarding claim 1: Nakagawa discloses a spatial scalable video decoder for receiving each of a standard-resolution bitstream and a high-resolution scalable bitstream **(fig. 1 and column 4, lines 36-45 of Nakagawa** – input video can be high resolution; selector determines if input video is to be encoded as high resolution or standard resolution) and providing a high-resolution video sequence **(column 6, line 55 to column 7, line 4 of Nakagawa** – both low resolution and high resolution video sequences are provided based on the resolution selection), the decoder comprising:

an I-picture detector for receiving the standard-resolution bitstream **(column 5, lines 22-29 of Nakagawa** – standard resolution I-pictures are detected and stored, and are later used to reconstruct high resolution images);

a standard-resolution Intra decoder in signal communication with the I-picture detector for decoding standard-resolution I-pictures to provide decoded standard-resolution I-pictures **(column 5, lines 22-27 of Nakagawa** – standard-resolution I-pictures are decoded and stored as standard-resolution pictures; stored standard-resolution I-pictures are later converted to high resolution images);

a high-resolution video decoder for receiving the high-resolution scalable bitstream **(column 4, lines 48-50 and lines 54-58; and column 5, line 56 to column 6, line 2 of Nakagawa)**; and

a selector in signal communication with the standard-resolution Intra video decoder and the high-resolution video decoder for selecting between the outputs from the standard-resolution Intra video decoder and the high-resolution video decoder to provide the high-resolution video sequence **(column 6, lines 50-58 of Nakagawa)**.

Nakagawa does not disclose expressly that the standard-resolution I-pictures are non-scalably decoded.

Oguz discloses non-scalably decoding standard-resolution I-pictures **(fig. 10(185); column 15, line 60 to column 16, line 2; and column 40, lines 37-39 of Oguz)**.

Nakagawa and Oguz are analogous art because they are from the same field of endeavor, namely digital video data encoding/decoding and processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use non-scalable decoding for the standard resolution I-pictures. The suggestion for doing so would have been that using scalable decoding versus using non-scalable decoding is a tradeoff between quality and efficient streaming, which one of ordinary skill would apply according to the user's needs **(column 2, lines 32-51 of Oguz)**. Therefore, it would have been obvious to combine Oguz with Nakagawa to obtain the invention as specified in claim 1.

Regarding claim 2: Nakagawa discloses an I-picture indicator in signal communication between the standard-resolution Intra decoder and the selector **(column 5, lines 22-29 and column 5, line 56 to column 6, line 5 of Nakagawa** – selector selects which resolution is to be

used and, if it is standard resolution, the Intra decoder decodes the standard-resolution I-pictures so that high-resolution I-pictures can be reconstructed).

Regarding claim 3: Nakagawa discloses an I-picture selector in signal communication with the I-picture detector **(column 6, line 55 to column 7, line 23 of Nakagawa** – I-pictures from the standard-resolution bitstream can be used or, if high-resolution is selected, high-resolution I-pictures are used for reconstructing the output video data stream).

Regarding claim 4: Nakagawa discloses an upsampler in signal communication with the standard-resolution Intra decoder **(column 5, lines 4-9 of Nakagawa)**.

Regarding claim 5: Nakagawa discloses a summing unit in signal communication with the high-resolution decoder **(column 7, line 54 to column 8, lines 2 of Nakagawa)**.

Regarding claim 6: Nakagawa discloses high-resolution frame stores in signal communication with the high-resolution decoder **(column 4, lines 48-50 of Nakagawa)**.

Regarding claim 7: Nakagawa discloses wherein the high-resolution frame stores is in signal communication with the selector for receiving the high-resolution video sequence **(column 4, lines 54-58 of Nakagawa)**.

Regarding claim 8: Nakagawa discloses a decoding method for providing spatial scalable decoded video data **(fig. 1 and column 4, lines 36-53 of Nakagawa)**, the method comprising:

receiving a standard-resolution bitstream **(column 4, lines 51-53 and column 5, lines 22-29 of Nakagawa)**;

receiving a high-resolution scalable bitstream **(column 4, lines 48-50 and column 5, line 56 to column 6, line 2 of Nakagawa)**;

Intra decoding standard-resolution I-pictures from the standard-resolution bitstream to provide decoded standard-resolution I-pictures **(column 5, lines 22-27 of Nakagawa** – standard-resolution I-pictures are decoded and stored as standard-resolution pictures; stored standard-resolution I-pictures are later converted to high resolution images);

up-sampling the decoded I-picture to high-resolution **(column 5, lines 4-9 of Nakagawa)**;

high-resolution decoding a current picture from the high-resolution scalable bitstream **(column 4, lines 48-50 and lines 54-58; and column 5, line 56 to column 6, line 2 of Nakagawa)**; and

summing the decoded current picture with the up-sampled I-picture **(column 7, line 54 to column 8, lines 2 of Nakagawa)**.

Nakagawa does not disclose expressly that the standard-resolution I-pictures are non-scalably decoded.

Oguz discloses non-scalably decoding standard-resolution I-pictures **(fig. 10(185); column 15, line 60 to column 16, line 2; and column 40, lines 37-39 of Oguz)**.

Nakagawa and Oguz are analogous art because they are from the same field of endeavor, namely digital video data encoding/decoding and processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use non-scalable decoding for the standard resolution I-pictures. The suggestion for doing so would have been that using scalable decoding versus using non-scalable decoding is a tradeoff between quality and efficient streaming, which one of ordinary skill would apply according to the user's needs **(column 2,**

lines 32-51 of Oguz). Therefore, it would have been obvious to combine Oguz with Nakagawa to obtain the invention as specified in claim 8.

Regarding claim 9: Nakagawa discloses selecting one of the decoded current picture and the summed picture in response to an indication of the presence of an I-picture **(column 6, line 50 to column 7, line 4 of Nakagawa** – based on characteristics of I-picture and selected resolution mode, the high-resolution video picture is selected or the low-resolution video picture, later used to reconstruct the high-resolution video picture, is selected); and outputting the selected picture in a high-resolution video sequence **(column 8, lines 38-50 of Nakagawa)**.

(10) Response to Argument

Regarding Sections A & B of Appellant's Arguments:

Appellant argues claims 1-9 are not taught by the cited references.

Examiner replies that Appellant argues, by way of introduction, the general alleged merits of Appellant's invention. Appellant further discusses, in a general nature, the cited references. Appellant does not directly address the specifically recited claim language. The specifically recited language of the claims is fully taught by the cited references, as demonstrated in the prior art rejections set forth above, and in the response to Appellant's arguments set forth below.

Regarding Section B1 of Appellant's Arguments:

Appellant argues that claim 1 recites a decoder and claim 8 recites a decoding method, which Appellant contends is in contrast to Nakagawa (EP 0 883 299 A2). Appellant alleges Nakagawa only teaches an encoder, and not a decoder. Appellant further argues that, even if an

encoder contains a decoder for reconstruction purposes, such decoder output is not an external output available as would be the case for an actual dedicated decoder.

Examiner replies Nakagawa does, in fact, teach a decoder and a decoding method. Firstly, the overall disclosure of Nakagawa is directed to both coding and decoding video images (see Title; Abstract; figure 1(12); figure 2; and column 1, lines 3-5 of Nakagawa). Figure 1 is expressly referred to as a "video coder" (see column 5, line 46 of Nakagawa), but contains video decoding elements (see column 6, lines 44-58 of Nakagawa). Furthermore, figure 2 of Nakagawa is expressly a video decoder (see column 18, lines 24-27 of Nakagawa).

Finally, the specifically recited language of the claims does not require that the decoder be a "dedicated decoder" or otherwise exist outside of an encoder. Even if the decoder is housed within an encoder, or for that matter any other kind of electronic device, so long as the decoder itself is taught by the prior art, the claim limitations have been met. If, for example, the decoder were an element of an overall video processing device, the decoder would still be taught by the prior art even if one were to refer to the overall disclosed device as a "video processing device."

The cited prior art combination fully teaches each element of the claimed invention, and thus fully teaches the claimed invention.

Appellant argues Nakagawa teaches scalably converting, and thus allegedly teaches away from the limitation "non-scalably Intra decoding" recited in claims 1 and 8.

Examiner replies that a mere difference in disclosure does not constitute a "teaching away" from the invention. Nakagawa can be modified to perform non-scalable Intra decoding, rather than allow for scalable Intra decoding. Such a modification would have been obvious to one of ordinary skill in the art at the time of the invention since using scalable decoding versus

non-scalable decoding is a tradeoff between quality and efficient streaming, and would be selectively applied based upon the user's needs (see column 2, lines 32-51 of Oguz [US-6,771,703]). Further, Nakagawa does not criticize, discredit, or otherwise discourage the use of non-scalable Intra decoding, and thus does not teach away from the obvious modification set forth by Examiner in the rejections (see MPEP § 2123(II)).

Appellant argues Nakagawa teaches converting, not decoding. Appellant further states "a conversion would seem to require the same states regarding pre-conversion and post-conversion, namely an uncompressed picture."

Examiner replies that, as stated above, Nakagawa unambiguously teaches decoding (see Title; Abstract; figure 1(12); figure 2; and column 1, lines 3-5 of Nakagawa). Further, conversion does not require the same states regarding pre-conversion and post-conversion, namely an uncompressed picture. In fact, for conversion to occur, some change in state is required. Otherwise, there is no conversion.

In Nakagawa, decoding is taught, as required by the recited claims. Low resolution pictures which have already been encoded (column 5, line 56 to column 6, line 2 of Nakagawa) are stored and later converted to high-resolution block images (column 5, lines 22-29 of Nakagawa). In order to obtain the high-resolution block images, decoding is performed.

Specifically, the source picture resolution converter 2 converts the resolution of the given source picture selected by the resolution selection controller 1 (see column 5, line 56 to column 6, line 5 of Nakagawa). The source picture can be the low-resolution picture (see column 5, lines 22-29 of Nakagawa - the low resolution mode is effective when selected by the resolution selection controller 1). The converted source picture is used for block motion estimation and

prediction parameter calculation for interframe coding (see column 6, lines 5-26 of Nakagawa). Thus, the source picture is decoded in order to generate the inter-frame encoded pictures. Additional decoding operations are set forth in Nakagawa (see column 6, lines 44-58 of Nakagawa).

Appellant argues the output of the first updating unit of Nakagawa, which is cited by Examiner, are high-resolution images and not the recited standard-resolution I-pictures.

Examiner replies that column 5, lines 22-29 of Nakagawa was cited to teach standard-resolution I-pictures. Column 5, lines 22-29 of Nakagawa states: "(d1) a first updating unit to convert the low-resolution picture retrieved from the low-resolution picture storage unit 4 to obtain high-resolution block images corresponding only to coded blocks with non-zero motion vectors and intra-coded (i.e., intra-frame coded) blocks, while the low resolution mode is effective, and store the high-resolution block images to the high-resolution picture storage unit 3." Thus, a low-resolution picture storage unit stores the recited standard-resolution I-pictures. While the standard-resolution I-pictures may be used later for obtaining high-resolution images, Nakagawa does teach the standard-resolution I-pictures.

Appellant argues figure 2 of Nakagawa fails to teach or suggest non-scalably Intra decoding standard-resolution I-pictures from the standard-resolution bitstream to provide decoded standard-resolution I-pictures.

Examiner replies that Nakagawa teaches Intra decoding standard-resolution I-pictures from the standard-resolution bitstream to provide decoded standard-resolution I-pictures, as described in column 5, lines 22-27 of Nakagawa. Therein, standard-resolution I-pictures are decoded and stored as standard-resolution pictures. The stored standard-resolution pictures are

later converted to high-resolution images and used for inter-frame encoding. Nakagawa does not teach non-scalably Intra decoding. However, Oguz does teach non-scalably Intra decoding, as required by the recited claims. Nakagawa and Oguz are analogous art since they are both within the field of digital video data encoding/decoding and processing. Further, it would have been obvious to one of ordinary skill in the art at the time of the invention to use non-scalable Intra decoding since using scalable decoding versus non-scalable decoding is a tradeoff between quality and efficient streaming, which one of ordinary skill would apply according to the user's needs (see column 2, lines 32-51 of Oguz).

Regarding Section C of Appellant's Arguments:

Appellant argues, in conclusion, that claims 1-9 are not taught by Nakagawa or Oguz, either alone or in combination.

Examiner replies, in conclusion, that Examiner has demonstrated claims 1-9 are fully taught by the combination of Nakagawa and Oguz, as shown above in the prior art rejections and in the response to Appellant's arguments.

Accordingly, Examiner respectfully requests the Board affirm Examiner's rejections of claims 1-9 under 35 U.S.C. § 103(a).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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